

EC Type-Approval Certificate UK 2879 Revision 8

issued by the:

National Measurement Office
Notified Body Number 0126

In accordance with the requirements of the Non-Automatic Weighing Instruments Regulations 2000 (SI 2000/3236) which implement, in the United Kingdom, Council Directive 2009/23/EC, this EC Type-Approval Certificate has been issued to:

Avery Berkel
Foundry Lane
Smethwick
West Midlands B66 2LP
United Kingdom

in respect of a Class III, non-automatic weighing instrument designated the Avery Berkel XM 100 and having the following characteristics:

$6 \text{ kg} \leq \text{Maximum capacity} \leq 30 \text{ kg}$

$e \geq 1 \text{ g}$

$n \leq 6000$ for Class III instruments with single interval

$n \leq 3000$ for Class III instruments per partial weighing range, with a maximum of two partial weighing ranges

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

This revision replaces previous versions of the certificate.

Issue Date: 26 April 2013
Valid Until: 03 November 2019
Reference No: T1128/0264



Signatory: P R Dixon
for Chief Executive

Descriptive Annex

1 NAME AND TYPE OF INSTRUMENT

The Avery Berkel XM 100 Non-Automatic Weighing Instrument is a mains-powered, Class III, price-computing, stand-alone instrument intended for direct sales to the public. Maximum capacities are between 6 kg and 30 kg.

2 DESCRIPTION

2.1 Construction (Figure 1)

2.1.1 Mechanical

The Avery Berkel XM 100 weighing instrument (Figure 1) comprises:

- Vendor's TFT, WVGA colour touch-screen display/keyboard with up to 20 programmable keys and separate 17 key tactile keypad with fixed function and numeric keys. The angle of the display can be adjusted in the horizontal axis to suit operator or environmental requirements.
- Customer's TFT, WVGA colour display. The layout and legends are identical to the vendor's display.
- Cassette printer using thermal print head.
- Die-cast chassis and plastic housing that contains the load cell and electronics.
- Stainless steel load receptor.

2.1.2 Devices

- Initial zero-setting
- Semi-automatic zero-setting
- Automatic zero-setting
- Zero-tracking
- Zero indicator
- Net indicator
- Semi-automatic subtractive tare balancing/weighing
- Preset tare
- Price computing
- Automatic tilt sensor/compensation device, weight indication prevented for tilt greater than $\pm 5^\circ$ in longitudinal and transverse directions.
- Price-labelling configuration, in which case printing below Min is not allowed

2.1.3 Load cell

The load cell is an Avery T103D, with Emax varying according to the instrument capacity.

2.2 Operation

2.2.1 Switch-on

At switch-on, the instrument performs a self-test, and attempts to set zero provided that it is within a range of 20% of its capacity.

2.2.2 Zero-tracking

Zero-tracking operates provided that the instrument is indicating zero, or a negative net value equivalent to gross zero, and stable.

2.2.3 Semi-automatic zero setting

The zero button operates provided that the instrument indication is within a range of 4% of its capacity.

2.2.4 Automatic zero setting

Automatic zero setting operates only when the instrument has been stable below zero for at least 5 seconds.

2.2.5 Over and under-range

If the load is less than gross zero, then the weight indications are replaced by a series of downward facing arrows and the price-to-pay indications are inhibited.

If the load is more than nine divisions above the maximum capacity, then the weight indications are replaced by a series of upward facing arrows and the price-to-pay indications are inhibited.

2.2.6 Tare and Preset Tare

Semi-automatic subtractive tare balancing or tare weighing can be performed, dependant upon configuration. The maximum tare is equal to maximum capacity, single or multi-interval versions.

Preset tares may be associated with PLU (Price Look-Up) files, keyboard assigned or tare values entered manually using the numeric keypad in which case the instrument must be set up with a subtractive tare weighing device and include a separate tare display. The maximum preset tare value is equal to maximum capacity (single interval versions only) or the limit of the first partial weighing range (multi-interval versions).

2.2.7 Tilt compensation

The instrument incorporates an automatic tilt sensor/compensation device that automatically compensates for out of level conditions up to $\pm 5^\circ$ in longitudinal or transverse directions. If the instrument exceeds this value then the weight indications

are replaced by a series of diagonal bars and the price-to-pay indications are inhibited.

2.3 Software

The software version numbers for the application, printer and load cell programs may be viewed by pressing the menu key, with no product selected, and selecting option “view versions”. The software version numbers will be shown as:-

Scale Software Version	ABR30-000222 v1.0.0.xx
Printer Software Version	ABR30-000217 v1.0.0.xx
Load cell Software Version	ABR30-000218 v1.0.0.xx

(where xx is for minor, non-legally relevant software variants).

3 TECHNICAL DATA

3.1 Power supply

The instrument is mains-powered, 110 - 240 V AC. 50/60 Hz.

3.2 Temperature range

The temperature range is -10 to +40 °C.

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Interfaces

The instrument may have the following interface type:

- Ethernet (wired or R.F. connectivity)
- USB

4.2 Peripheral devices

The following peripheral devices may be connected to the interfaces provided:

- Peripheral devices that have been issued with a test certificate by a Notified Body responsible for type approval under Directive 2009/23/EC; or
- Peripheral devices without a test certificate under the following conditions:
 - it bears the CE marking for conformity to the EMC Directive;
 - it is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation;
 - it prints weighing results and other data as received from the weighing instrument without any modification or further processing;
 - it complies with the applicable requirements of EN: 45501, i.e. 4.2, 4.4, 4.6 and 4.7.

A printing device may print additional information such as date or number to identify the printed weighing result(s) or sets of weighing results.

5 APPROVAL CONDITIONS

This certificate is issued subject to the following conditions:

5.1 Legends and inscriptions

5.1.1 The remote display bears the following legends on or near the display:

Max
Min
e =

5.1.2 The instrument shall bear the following legends:

Accuracy class
CE marking
Green M
Serial number
Manufacturer's mark or name
Certificate number

The markings and inscriptions shall fulfil the requirements of Paragraph 1 of Annex IV of the Directive 2009/23/EC.

6 LOCATION OF SEALS AND VERIFICATION MARKS

6.1 The data plate is located on the left-hand side of the instrument, when viewed from the vendor side. It is secured, either by sealing or by being of a form such that it is destroyed when removed.

6.2 Components that may not be dismantled or adjusted by the user shall be secured by a suitable mark placed over the securing screw of the load cell cover (Figure 2). The sealing may be viewed through a transparent cover, which may be removed for sealing purposes, located in the centre of the top housing on the left hand side of the instrument, when viewed from the vendor side, after removal of the load receptor. The securing mark may be either:

- a mark of the manufacturer and/or manufacturer's representative, or
- an official mark of a verification officer.

Verification marks, and the CE marking, are located on, or adjacent to, the data plate.

6.3 For instruments in which a remote platform is connected to the (sealed) instrument by means of a plug and socket arrangement, security of the connection is considered to have been achieved if tamper-evident labels are provided on both instrument and platform, having a common serial number or cross reference that identifies the verified combination.

7 ALTERNATIVES

7.1 Having the XM 200, which has a tower mounted customer display (Figure 3).

7.2 Having the XM 400, which has a tower mounted operator keyboard and double-sided tower mounted display (Figure 4).

7.3 Having a modified software with the following Scale Software Version number:

ABR30-000222 v1.1.0.xx

(where xx is for minor, non-legally relevant software variants).

7.4 Having a modified software, now segregated in legally relevant and non-legally relevant modules, including:

- Software security features (checksums prevent invalid software from running when the application starts)
- Audit trail, which records legally relevant software updates, both traced and verified, and changes to device-specific parameters. The audit trail information is accessed by pressing the menu key, with no product selected, selecting the option “View Versions” followed by “Audit Logs”. The complete audit log is then automatically printed
- Receipt / ECR / totalisation operation
- Software version numbers may be displayed, in the format as shown in Figure 5, by pressing the menu key, with no product selected, and selecting option “View Versions” from the on-screen menu options. This information may also be printed by pressing the “Print” key

Fixed legally relevant software parts that can only be loaded when breaking the seal (verified update), with changes being recorded in the audit log, and must match the following verification information (where ‘x’ covers minor software updates):

- | | |
|----------------------|-----------------------|
| – Validation library | ABR30-000222 V2.x.x.x |
| – Load cell software | ABR30-000218 V1.x.x.x |

Legally relevant software parts that can be loaded without breaking the seal (traced update), with changes being recorded in the audit log, and must match the following verification information (where ‘x’ covers minor software updates):

- | | |
|----------------------------|-----------------------|
| – Legally relevant library | ABR30-000222 V2.x.x.x |
| – Application | ABR30-000222 V2.x.x.x |

Non-legally relevant software parts can be loaded without breaking the seal or being included in the audit trail:

- Printer software
- Utilities software

7.5 Having the XM 500, utilising a hanging scale construction as shown in Figure 6, with the following metrological characteristics:

Max 15 kg
Min 100 g
 $e = 5 \text{ g}$

7.6 Having the XM 601 / 603, utilising a construction as shown in Figure 7. The XM 603 variant may be integrated into a manual or Auto Wrapper system. Securing of the load cell cover is realised as shown in Figure 8.

7.7 Having the XM 420, which is similar in construction to the XM 400 but with an additional receipt printer incorporated into the operator keyboard/display (Figure 9).

7.8 Having the XM 410, which is similar in construction to the XM 420 but without the base mounted cassette printer (Figure 10).

7.9 Having a modified application software (as defined in section 7.4) as follows:

- Application ABR30-000222 V3.x.x.x (where 'x' covers minor updates)

7.10 Having the XM 500 with the following metrological characteristics:

Max 6/15 kg
Min 100 g
 $e = 2/5 \text{ g}$

7.11 Having modified application and legally relevant library software parts (as defined in sections 7.4 and 7.9) as follows:

- Application ABR30-000222 V4.x.x.x
 - Legally relevant library ABR30-000222 V3.x.x.x
- (where 'x' covers minor software updates)

8 ILLUSTRATIONS

Figure 1	The XM 100 instrument
Figure 2	Sealing location
Figure 3	Model XM 200
Figure 4	Model XM 400
Figure 5	Verification information
Figure 6	Model XM 500
Figure 7	Model XM 601 / 603
Figure 8	Load cell cover sealing (Model XM 601 / 603)
Figure 9	Model XM 420
Figure 10	Model XM 410

CERTIFICATE HISTORY

Issue №.	Date	Description
UK 2879	04 November 2009	Type approval first issued.
UK 2879 revision 1	07 December 2009	Authorised alternative 7.3 added.
UK 2879 revision 2	26 February 2010	Authorised alternative 7.4 added.
UK 2879 revision 3	12 July 2010	Authorised alternative 7.5 added.
UK 2879 revision 4	03 August 2010	Authorised alternative 7.4 modified. Authorised alternative 7.6 added.
UK 2879 revision 5	09 November 2010	Section 6.3 added. Section 7.6 modified to include Figure 8. Authorised alternatives 7.7 and 7.8 added.
UK 2879 revision 6	23 March 2011	Authorised alternative 7.9 added.
UK 2879 revision 7	06 February 2012	Authorised alternative 7.10 added.
UK 2879 revision 8	26 April 2013	Authorised alternative 7.11 added.



Figure 1 The XM 100 instrument



Figure 2 Sealing Location



Figure 3 Model XM 200



Figure 4 Model XM 400

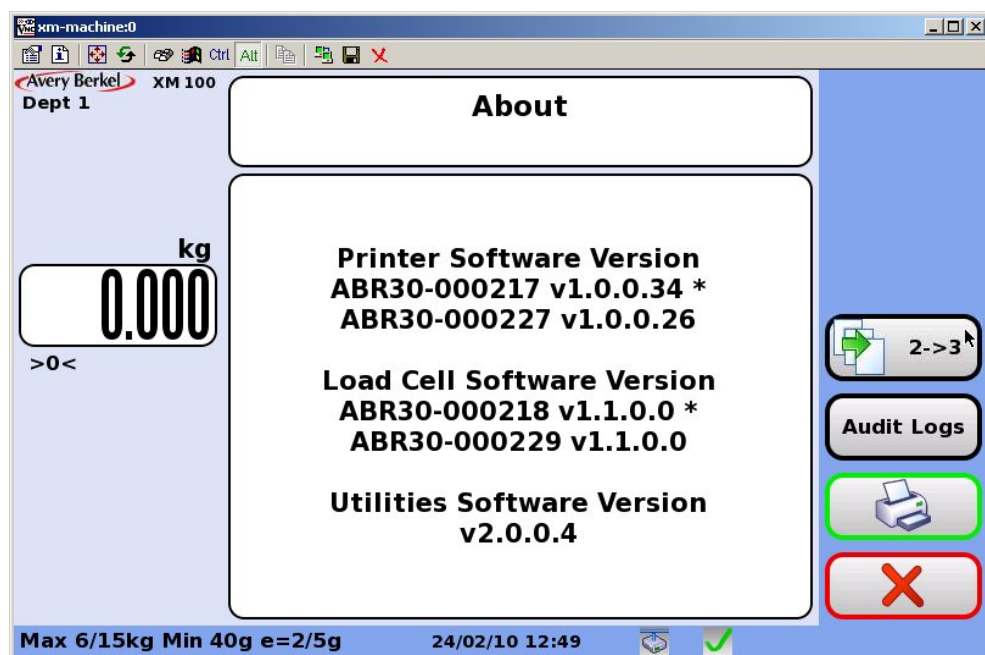
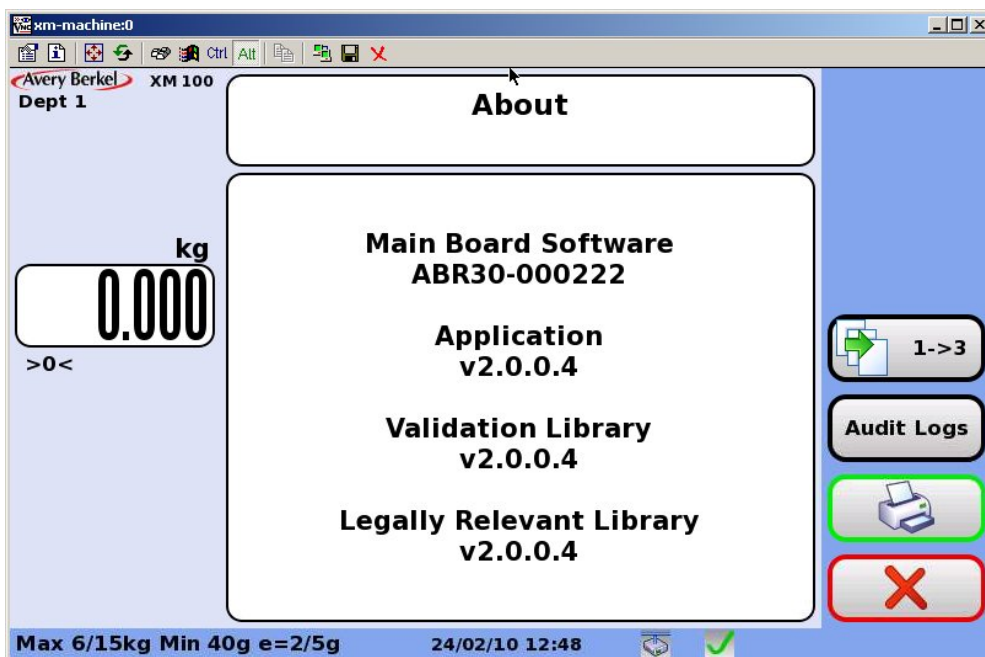


Figure 5 Verification information



Figure 6 Model XM 500



Figure 7 Model XM 601 / 603



Figure 8 Load cell cover sealing (Model XM 601 / 603)



Figure 9 Model XM 420



Figure 10 Model XM 410